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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			EXAMINER CHO, HONG SOL	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/803,384	Applicant(s) GAZSI ET AL.	
	Examiner Hong Cho	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09-16-2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because Figures 1 – 3 have titles in German, and Figures 2 and 3 have legends in German and there are no legends for Figure 4. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because it includes the title of the invention. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 7-14, and 17 are rejected under 35 U.S.C. 102(e) as being unpatentable over Partridge et al.(U.S 6160811), hereinafter referred to as Partridge.

Re claim 1, Partridge discloses a data packet router (*high-speed router*) in a communication network (*data networks*) for forwarding data packets with a header and a payload and multiple independent forwarding processors for processing header data (*a plurality of data processing processors for parallel data processing of the header data*, column 1, lines 4-8; column 2, lines 14-15).

Re claim 3, Partridge discloses a line interface to-switch unit (TSU, *distribution processor*) sending (*distributing*) the header to the selected forwarding engine (*data processing processor*, column 5, lines 25-26).

Re claim 7, Partridge discloses a packet received and buffered at the line interface TSU (*a useful data memory is provided for buffer storing the separated useful data*, column 5, lines 21-22).

Re claim 8, it is inherent that TSU provides a process to provide a respective identifier to the header data and useful data to be reassembled into packets.

Re claims 9 and 10, Partridge discloses TSU page processor (*a first and second multiplexer*) merging the header and payload buffered (*coming from the useful data memory*) from TSU (*compiling header data and useful data*, column 4, lines 8-10; column 6, lines 29-34).

Re claim 11, Partridge discloses TSU page processor with FIFO memory for transmitting the header and payload to the outgoing line interface card (*the first multiplexer has a*

FIFO memory connected downstream of it for outputting the compiled data packets through the router, column 6, lines 27-30).

Re claim 12, Partridge discloses TSU page processor (element 155, figure 3b) connected to the switch interface (element 159, figure 3b) *(the output of the second multiplexer is connected to the switching mechanism).*

Re claim 13, Partridge discloses processors connected to each other through a bus *(distribution processor, data processing processors, and the CAM processors are connected to a common data bus, column 3, lines 53-56)*

Re claim 14, it is inherent that each processor has a dedicated memory for the purpose of transferring data in memory.

Re claim 17, Partridge discloses TSU that buffers payload of the packet *(the demultiplexer has an input buffer connected upstream of it, column 4, lines 9-11).*

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge in view of Jonsson et al (U.S. 6700888), hereinafter referred to as Jonsson.

Re claim 2, Partridge fails to disclose explicitly a demultiplexer separating the data packets into header data and useful data. However, Jonsson discloses a header extractor (*demultiplexer*) that extracts the headers from the packets (*separating the packet into a header and useful data, column 4, lines 7-10*). It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement a header extractor of Jonsson into Partridge to separate data packet into a header and payload since the separation processing has to be performed before the distribution of headers to the responding processors.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge in view of Lenoski et al (U.S 6747972), hereinafter referred to as Lenoski, and further in view of Sanu et al (U.S 5974409), hereinafter referred to as Sanu.

Re claim 4, Partridge fails to teach distributing the header data based on the priority of the header data and the workload of the data processing processors. However, Lenoski teaches distributing network traffic based on the priority of traffic (column 5, lines 42-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the teaching of Lenoski in distributing the packet based on the priority level into Partridge to provide the optimized management of packet distribution (column 5, lines 43-46). Moreover, neither Partridge nor Lenoski teach distributing the header data on the basis of the workload of the data processing processors. Sanu, however, teaches monitoring the processor load when routing the messages to the server (column 22, lines 22-25). It would have been further obvious to

one having ordinary skill in the art at the time the invention was made to implement the teaching of Sanu in distributing the packet based on workload level of each processor into Partridge and Lenoski to provide the optimized management of the processor by avoiding work overload.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge in view of Bremer et al (U.S 6032190), hereinafter referred to as Bremer.

Re claim 5, Partridge fails to teach explicitly the header data being distributed to the data processing processors by means of DMA operations. Bremer, however, teaches transferring the header portion of the data packet to a packet processor unit by DMA controller. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use DMA controller of Sanu in distributing the header data to the data processing since a DMA controller controls data transfer between the various components within the system memory (column 5, lines 27-32).

Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge in view of Lenoski, and further in view of in view of Cooperman et al (U.S 5721833), hereinafter referred to as Cooperman.

Re claims 6 and 16, neither Partridge nor Lenoski fail to teach explicitly CAM processor connected to the FIFO memory through a bus for classifying the data packets.

Cooperman, however, teaches writing (*having an associative memory*) each cell (*data packet*) with priority into a CAM (column 2, lines 41-44). It would have been obvious to

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one having ordinary skill in the art at the time the invention was made to use a CAM processor of Cooperman in classifying data packets since CAM provides comparison logic in reconstructing information stored in memory.

Claims 15, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge.

Re claim 15, Partridge fails to teach explicitly a common memory connected to the header data bus. **Official notice is taken** that a memory component is connected to the data bus such as PCI bus.

Re claims 18 and 19, Partridge fails to teach explicitly a high-speed router used in LANs or Internet. **Official notice is taken** that routers are used to forward data packets between networks such as LANs, WANs, and Internet.

Re claim 20, Partridge teaches forwarding engines employing the same processor type (column 4, lines 36-37). Partridge fails to teach explicitly using the same processor type for the distribution processor as used in the data processing processors. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use same processor type for the distribution processor as used in the data processing processors to get design compatibility among processors.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - US Patent (5513134) to Cooperman et al. discloses ATM shared memory switch with content addressing
 - US Patent (6424659) to Viswanadham et al. discloses multi-layer switching apparatus and method
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Hong Cho
Patent Examiner
9-16-2004


RICKY NGO
PRIMARY EXAMINER
9/20/04